Quiz 2: Equity Instruments

Answer all questions and show necessary work. Please be brief. This is an open books, open notes exam.

1. You are valuing Valisco Enterprises, a troubled manufacturing firm and have projected out the following values for revenues, operating income and taxes for the next 3 years:

	1	*2*	*3*
Revenues	$1,000	$1,030	$1,061
Pre-tax Operating Margin	-5.00%	1.00%	5.00%
EBIT	-$50.00	$10.30	$53.05
Tax rate	0%	0%	40%

The firm has excess capacity in its manufacturing facilities and does not need to make any net capital expenditures or working capital investments for the next 3 years. Due to high leverage, the cost of capital for the next 3 years will be 12%. After year 3, revenues are expected to continue growing at the same rate as they did in the first 3 years, the pre-tax operating margin will stabilize at the 5% level, the tax rate will stay at 40% and the firm is expected to earn an after-tax return on capital of 10%, equal to its stable period cost of capital.

a. Estimate the terminal value at the end of year 3. (2 points)

b. Assume that the firm has $25 million in cash and marketable securities, $100 million in debt due and 10 million shares outstanding. Estimate the value per share today. (2 points)

c. Now assume that part of the debt is in the form of publicly traded bonds, and that the firm has a 3-year zero coupon bond trading at $600 (bond face value = $1000). If the riskfree rate is 5%, estimate the value of equity per share allowing for the probability that the firm will not make it as a going concern. You can assume that the equity will be worth nothing in the event of default. (Hint: Global Crossing) (2 points)

2.. Zookin Technology is a gaming software company with no debt outstanding, after-tax operating income of $ 100 million and a cash balance of $250 million in the most recent year. The firm also has minority holdings in three entertainment software companies with a book value of $ 50 million (reflecting what was originally invested in those companies). Entertainment software companies typically trade at 5 times book value.

a. Assuming no growth in operating income and an 8% cost of capital, estimate the value of the operating assets at Zookin. (1 point)

b. Factoring in the cash and minority holdings, estimate the value of equity at Zookin. (1 point)

c. Zookin has 50 million shares outstanding. It also has 10 million options outstanding, with an exercise price of $ 5 and 3 years left to expiration. Using the treasury stock approach, estimate the value per share. (1 point)

d. Given the time premium on the option, using the treasury stock approach will lead you to (1 point)

i. Understate the value per share
ii. Overstate the value per share
iii. Have no effect on the value per share